

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A network encoding method of using a computer for transferring data, comprising:

- sending a request for data from a requesting computer to a targeted computer system;
- accessing at the targeted computer system a look-up list to identify other computers that have previously requested and received at least a portion of the requested data;
- sending requests to the identified computers, wherein upon receiving the requests the identified computers have received different partial portions of the requested data;
- independently encoding at least a the different partial portions of the data at the identified computers in response to the requests;
- sending the encoded different partial portions of the data from the identified computers to the requesting computer prior to receiving remaining portions of the data;
- receiving the different partial portions of the encoded data from at least two of the sending computers;
- decoding the received encoded data to recreate the requested data from the different partial portions; and
- saving the ~~decoded~~ requested data in memory.

Claim 2 (Previously presented): The method of claim 1, wherein data transmission is accomplished from the one or more other computers over a peer-to-peer network, wherein the other computers that previously requested and received at least a portion of the requested data are peers with the requesting computer.

Claim 3 (Original): The method of claim 1, wherein encoded packets are relayed.

Claim 4 (Original): The method of claim 1, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 5 (Original): The method of claim 1, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 6 (Currently Amended): The method of claim 1,
wherein the look-up list is a mesh list that records which partial portions of the data each of the other computers has received, and
wherein accessing the look-up list to identify the other computers includes selecting the identified other computers based on the record of which partial portions of the data each of the other computers has received.

Claim 7 (Currently Amended): The method of claim 1,
wherein encoding the different partial portions of the data at the identified computers comprises re-encoding each of the different partial portions at the identified computers using
~~wherein the data is encoded~~ using an acknowledgement independent equalized data packet encoding scheme that is a FEC encoding, and
wherein decoding the received encoded data includes decoding the FEC encoded different partial portions from the identified computers to recreate the requested data.

Claim 8 (Original): The method of claim 1, wherein the data that is to be encoded is segmented before encoding.

Claim 9 (Original): The method of claim 1, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 10 (Currently Amended): A method of using a computer for transferring data, comprising:

receiving a request for data from a computer;
accessing a look-up list to identify any peer computers that have previously downloaded at least a portion of the requested data;
sending requests to the identified other peer computers, wherein the identified peer computers have downloaded different partial portions of the requested data upon receiving the requests;
encoding the different partial portions of the requested data at the identified computers ~~that have previously downloaded at least a portion of the requested data~~, wherein the data is encoded using an acknowledgement independent equalized data packet encoding system; and
sending the encoded different partial portions of the data from at least two different ones of the peer computers to the requesting computer prior to receiving all of the data at the identified peer computers.

Claim 11 (Original): The method of claim 10, wherein data transmission is accomplished over a peer-to-peer network.

Claim 12 (Original): The method of claim 10, wherein encoded packets are relayed.

Claim 13 (Original): The method of claim 10, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 14 (Original): The method of claim 10, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 15 (Original): The method of claim 10, wherein the look-up list is a mesh list.

Claim 16 (Original): The method of claim 10, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 17 (Original): The method of claim 10, wherein the data that is to be encoded is segmented before encoding.

Claim 18 (Currently Amended): A method of using a computer for transferring data from a set of peer computers to a requesting computer, comprising:

receiving a request for data at a source computer ~~from the requesting computer~~, wherein the source computer maintains a list of peer computers that have previously downloaded at least a portion of the data, wherein the list records which partial portions of the data each of the other computers has received;

selecting a set of the peer computers based on the record of which partial portions of the requested data each of the peer computers has received;

independently encoding the different portions of the data at the peer computers using an acknowledgement independent equalized data packet encoding scheme prior to receiving all of the data at the peer computers; and

sending the encoded different portions of the data from at least two different ones of the peer computers to the requesting computer.

Claim 19 (Original): The method of claim 18, wherein data transmission is accomplished over a peer-to-peer network.

Claim 20 (Original): The method of claim 18, wherein encoded packets are relayed.

Claim 21 (Previously presented): The method of claim 18, wherein the list is populated with nodes based on data transfer rates, and wherein each node represents a different one of the peer computers.

Claim 22 (Previously presented): The method of claim 18, wherein the list is populated with nodes based on data types stored within the nodes, and wherein each node represents a different one of the peer computers.

Claim 23 (Previously presented): The method of claim 18, wherein the list is a mesh list.

Claim 24 (Original): The method of claim 18, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 25 (Original): The method of claim 18, wherein the data that is to be encoded is segmented before encoding.

Claim 26 (Currently Amended): A method of using a computer for dynamically transferring data, comprising:

- sending a request for data to a targeted computer capable of servicing the request;
- receiving acknowledgement independent equalized data packets from at least two different sending computers that have previously downloaded ~~at least a~~ different portions of the data from the targeted computer;
- decoding the received encoded data; and
- saving the decoded data in memory.

Claim 27 (Original): The method of claim 26, wherein data transmission is accomplished over a peer-to-peer network.

Claim 28 (Original): The method of claim 26, wherein the encoded packets are relayed.

Claim 29 (Previously presented): The method of claim 26, further comprising maintaining at the targeted computer a list of the computers that have previously downloaded at least a portion of the requested data, wherein the list is populated with nodes based on data transfer rates.

Claim 30 (Previously presented): The method of claim 29, wherein the list is populated with nodes based on data types stored within the nodes, and wherein each of the nodes represents a different one of the computers.

Claim 31 (Previously presented): The method of claim 29, wherein the list is a mesh list.

Claim 32 (Original): The method of claim 26, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 33 (Original): The method of claim 26, wherein the data that is to be encoded is segmented before encoding.

Claim 34 (Original): The method of claim 26, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 35 (Currently Amended): A system for using a computer for transferring data, comprising:

- means to send a request for data from a requesting computer to a targeted computer;
- means to access a look-up list to identify other computers that have previously downloaded at least a portion of the requested data from the targeted computer;
- means to send requests to the identified computers, wherein the identified computers have only received different partial portions of the requested data from the targeted computer system;
- means to send the different partial portions of the data from the identified computers to the requesting computer;
- means to receive the different partial portions of the data from identified computers;
- means to save the data in memory.

Claim 36 (Original): The system of claim 35, wherein data transmission is accomplished over a peer-to-peer network.

Claim 37 (Previously presented): The system of claim 35, wherein the data is relayed.

Claim 38 (Previously presented): The system of claim 35, wherein the look-up list is populated with nodes based on data transfer rates, and wherein each of the nodes represents a different one of the computers that have previously downloaded the data, and wherein the data transfer rates represents data transfer rates at which the data was previously downloaded to the computers.

Claim 39 (Original): The system of claim 35, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 40 (Original): The system of claim 35, wherein the look-up list is a mesh list.

Claim 41 (Previously presented): The system of claim 35, further comprising means to encode the data at the identified computers using an acknowledgement independent equalized data packet encoding scheme prior to sending.

Claim 42 (Previously presented): The system of claim 41, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 43 (Previously presented): The system of claim 41, wherein the received encoded packets are decoded at the requesting computer, and then re-encoded for further transmission upon request.

Claim 44 (Currently Amended): A system for using a computer for transferring data, comprising:

means to receive a request for data from a computer;

means to access a look-up list to identify a set of peer computers that have previously requested and downloaded at least a portion of the data;

means to initiate transfer of the previously downloaded data from identified computers to the requesting computer, wherein the identified computers have only received different partial portions of the requested data;

means to independently encode the different partial portions of the data at the identified computers using an acknowledgement independent equalized data packet encoding scheme;

means to send the encoded data from the identified computers to the requesting computer.

Claim 45 (Previously presented): The system of claim 44, wherein data transmission is accomplished over a peer-to-peer network, and wherein the computers that have previously downloaded the data are peers with the requesting computer.

Claim 46 (Original): The system of claim 44, wherein encoded packets are relayed.

Claim 47 (Original): The system of claim 44, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 48 (Original): The system of claim 44, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 49 (Original): The system of claim 44, wherein the look-up list is a mesh list.

Claim 50 (Original): The system of claim 44, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 51 (Original): The system of claim 44, wherein the data that is to be encoded is segmented before encoding.

Claim 52 (Previously presented): A system for transferring data from a set of peer computers to a requesting computer, comprising:

means to receive at a source computer a request to download data, wherein the source computer maintains a list of peer computer that have previously downloaded at least a portion of the data;

means to encode the data at the peer computers using an acknowledgement independent equalized data packet encoding scheme at the direction of the source computer;

means to send the encoded data from the peer computers to a requesting computer

Claim 53 (Original): The system of claim 52, wherein data transmission is accomplished over a peer-to-peer network.

Claim 54 (Original): The system of claim 52, wherein encoded packets are relayed.

Claim 55 (Previously presented): The system of claim 52, wherein the list is populated with nodes based on data transfer rates.

Claim 56 (Previously presented): The system of claim 52, wherein the list is populated with nodes based on data types stored within the nodes.

Claim 57 (Previously presented): The system of claim 52, wherein the list is a mesh list.

Claim 58 (Original): The system of claim 52, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 59 (Original): The system of claim 52, wherein the data that is to be encoded is segmented before encoding.

Claim 60 (Currently Amended): A system for dynamically transferring data from a set of peer computers to a requesting computer, comprising:

- means to send a request for data to a targeted computer capable of servicing the request;
- means to receive acknowledgement independent equalized data packets from sending computers that have previously downloaded ~~at least a~~ different portions of the data from the targeted computer;
- means to decode the received encoded data; and
- means to save the decoded data memory.

Claim 61 (Original): The system of claim 60, wherein data transmission is accomplished over a peer-to-peer network.

Claim 62 (Original): The system of claim 60, wherein encoded packets are relayed.

Claim 63 (Previously presented): The system of claim 60, further comprising means for maintaining at the targeted computer a list of the computers that have previously downloaded at least a portion of the requested data, wherein the list is populated with nodes based on data transfer rates.

Claim 64 (Previously presented): The system of claim 63, wherein the list is populated with nodes based on data types stored within the nodes.

Claim 65 (Previously presented): The system of claim 63, wherein the list is a mesh list.

Claim 66 (Original): The system of claim 60, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 67 (Original): The system of claim 60, wherein the data that is to be encoded is segmented before encoding.

Claim 68 (Original): The system of claim 60, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 69 (Currently Amended): A program stored on a medium readable by a processor, the program comprising:

- a module to send a request for data to a targeted computer system;
- a look-up list that references other peer computers that previously downloaded ~~at least a~~ different partial portions of the requested data and initiates transfer from the identified peer computers to the requesting computer using an encoding scheme;
- a module to receive the encoded data from identified peer computers;
- a module to decode the received encoded data; and
- a module to save the decoded data in memory.

Claim 70 (Original): The medium of claim 69, wherein data transmission is accomplished over a peer-to-peer network.

Claim 71 (Original): The medium of claim 69, wherein encoded packets are relayed.

Claim 72 (Previously presented): The medium of claim 69, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 73 (Original): The medium of claim 69, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 74 (Original): The medium of claim 69, wherein the look-up list is a mesh list.

Claim 75 (Original): The medium of claim 69, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 76 (Original): The medium of claim 69, wherein the data that is to be encoded is segmented before encoding.

Claim 77 (Original): The medium of claim 69, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 78 (Currently Amended): A program stored on a medium readable by a processor, the program comprising:

a module to receive a request for data from a requesting computer having one or more peer computers;

a module to identify which of the peer computers have previously requested and downloaded the data; and

a module to send requests to the identified peer computers to direct the peer computers to encode the data using an acknowledgement independent equalized data packet encoding scheme and send the encoded data to the requesting computer,

wherein the identified computers have received different partial portions of the requested data and send the encoded data to the requesting computer prior to receiving mainlining portions of the requested data.

Claim 79 (Original): The medium of claim 78, wherein data transmission is accomplished over a peer-to-peer network.

Claim 80 (Original): The medium of claim 78, wherein encoded packets are relayed.

Claim 81 (Previously presented): The medium of claim 78, further comprising a module that maintains a look-up list that identifies the peer computers that previously downloaded the data, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 82 (Previously presented): The medium of claim 81, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 83 (Previously presented): The medium of claim 81, wherein the look-up list is a mesh list.

Claim 84 (Original): The medium of claim 78, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 85 (Original): The medium of claim 78, wherein the data that is to be encoded is segmented before encoding.

Claim 86 (Currently Amended): A program stored on a medium readable by a processor of a peer computer, the program comprising:

- a module to download data from a source computer;
- a module to receive a request from the source computer to transfer the data to a requesting computer, wherein the module receives the request after downloading a partial portion of the data and before downloading a remaining portion of the data;
- a module to encode the previously downloaded partial portion of the data using an acknowledgement independent equalized data packet encoding scheme; and
- a module to send the encoded data to the requesting computer.

Claim 87 (Original): The medium of claim 86, wherein data transmission is accomplished over a peer-to-peer network.

Claim 88 (Original): The medium of claim 86, wherein encoded packets are relayed.

Claim 89 (Previously presented): The medium of claim 86, wherein the source computer maintains a look-up list that lists the peer computers having previously downloaded the data, and wherein the look-up list is populated with nodes based on data transfer rates.

Claim 90 (Previously presented): The medium of claim 89, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 91 (Previously presented): The medium of claim 89, wherein the look-up list is a mesh list.

Claim 92 (Original): The medium of claim 86, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 93 (Original): The medium of claim 86, wherein the data that is to be encoded is segmented before encoding.

Claim 94 (Currently Amended): A program stored on a medium readable by a processor of a computer having a plurality of peer computers, the program; comprising:

a module to send a request for data to a targeted computer capable of servicing the request;

a module to receive acknowledgement independent equalized data packets from the peer computers that previously downloaded different partial portions of the data from the targeted computer;

a module to decode the received encoded data; and

a module to save the decoded data in memory.

Claim 95 (Previously presented): The medium of claim 94, wherein data transmission is accomplished over a peer-to-peer network.

Claim 96 (Previously presented): The medium of claim 94, wherein encoded packets are relayed.

Claim 97 (Previously presented): The medium of claim 94, wherein the targeted computer maintains a look-up list is populated with nodes based on data transfer rates.

Claim 98 (Previously presented): The medium of claim 94, wherein the targeted computer maintains a look-up list is populated with nodes based on data types stored within the nodes.

Claim 99 (Previously Presented): The medium of claim 94, wherein the targeted computer maintains a look-up list is a mesh list.

Claim 100 (Previously presented): The medium of claim 94, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 101 (Previously presented): The medium of claim 94, wherein the data that is to be encoded is segmented before encoding.

Claim 102 (Previously presented): The medium of claim 94, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 103 (Currently Amended): A network transmission apparatus comprising:
a processor;
a memory communicatively connected to the processor;
a program, stored in the memory, including,
a module to send a request for data to a targeted computer system;
a look-up list that references other peer computers that previously downloaded ~~at least~~ a portion of the requested data and initiates transfer from the identified peer computers to the requesting computer using an encoding scheme;
a module to receive the encoded data from identified peer computers, wherein the identified computers have received different partial portions of the requested data from the targeted computer system and send encoded partial portions of the data prior to receiving remaining portions of the data from the targeted computer system;
a module to decode the received encoded data; and
a module to save the decoded data in memory.

Claim 104 (Original): The apparatus of claim 103, wherein data transmission is accomplished over a peer-to-peer network.

Claim 105 (Original): The apparatus of claim 103, wherein encoded packets are relayed.

Claim 106 (Original): The apparatus of claim 103, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 107 (Original): The apparatus of claim 103, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 108 (Original): The apparatus of claim 103, wherein the look-up list is a mesh list.

Claim 109 (Original): The apparatus of claim 103, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 110 (Original): The apparatus of claim 103, wherein the data that is to be encoded is segmented before encoding.

Claim 111 (Original): The apparatus of claim 103, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 112 (Currently Amended): A network transmission apparatus, comprising:

- a processor;
- a memory, communicatively connected to the processor;
- a program, stored in the memory, including:
 - a module to receive a request for data from a requesting computer having one or more peer computers;
 - a module to identify which of the peer computers have previously requested and downloaded the data; and
 - a module to send requests to the identified peer computers to direct the peer computers to send the data to the requesting computer,

wherein the identified peer computers have received different partial portions of the requested data and send the encoded data to the requesting computer prior to receiving mainlining portions of the requested data.

Claim 113 (Original): The apparatus of claim 112, wherein data transmission is accomplished over a peer-to-peer network.

Claim 114 (Previously presented): The apparatus of claim 112, wherein the data is relayed.

Claim 115 (Previously presented): The apparatus of claim 112, wherein the program further comprises a module that maintains a lookup list, wherein the look-up list is populated with nodes based on data transfer rates.

Claim 116 (Previously presented): The apparatus of claim 112, wherein the program further comprises a module that maintains a lookup list, wherein the look-up list is populated with nodes based on data types stored within the nodes.

Claim 117 (Previously presented): The apparatus of claim 112, wherein the program further comprises a module that maintains a lookup list, wherein the look-up list is a mesh list.

Claim 118 (Previously presented): The apparatus of claim 112, wherein the module that sends the requests to the identified peer computers further directs the peer computers to encode the data using an acknowledgement independent equalized data packet encoding scheme.

Claim 119 (Previously presented): The apparatus of claim 118, wherein the data that is to be encoded is segmented before encoding.

Claim 120 (Currently Amended): A network transmission apparatus, comprising:
a processor;
a memory, communicatively connected to the processor;
a program, stored in the memory, including,
a module to download data from a source computer;
a module to receive a request from the source computer to transfer the data to a peer computer, wherein the module receives the request after downloading a partial portion of the data and before downloading a remaining portion of the data;
a module to encode the previously downloaded partial portion of the data using an acknowledgement independent equalized data packet encoding scheme; and
a module to send the encoded partial portion of the data to the peer computer before downloading a remaining portion of the data.

Claim 121 (Original): The apparatus of claim 120, wherein data transmission is accomplished over a peer-to-peer network.

Claim 122 (Original): The apparatus of claim 120, wherein encoded packets are relayed.

Claim 123 (Previously presented): The apparatus of claim 120, wherein the source computer maintains a look-up list that is populated with nodes based on data transfer rates.

Claim 124 (Previously presented): The apparatus of claim 120, wherein the source computer maintains a look-up list that is populated with nodes based on data types stored within the nodes.

Claim 125 (Previously presented): The apparatus of claim 120, wherein the source computer maintains a look-up list that is a mesh list.

Claim 126 (Original): The apparatus of claim 120, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 127 (Original): The apparatus of claim 120, wherein the data that is to be encoded is segmented before encoding.

Claim 128 (Currently Amended): A network transmission apparatus, comprising:

- a processor;
- a memory, communicatively connected to the processor;
- a program, stored in the memory, including,
 - a module to send a request for data to a targeted computer capable of servicing the request;
 - a module to receive acknowledgement independent equalized data packets from at least two or more different the peer computers that previously downloaded different portions of the data from the targeted computer;
 - a module to decode the received encoded data; and
 - a module to save the decoded data in memory.

Claim 129 (Original): The apparatus of claim 128, wherein data transmission is accomplished over a peer-to-peer network.

Claim 130 (Original): The apparatus of claim 128, wherein encoded packets are relayed.

Claim 131 (Previously presented): The apparatus of claim 128, wherein the targeted computer maintains a look-up list that is populated with nodes based on data transfer rates.

Claim 132 (Previously presented): The apparatus of claim 128, wherein the targeted computer maintains a look-up list that is populated with nodes based on data transfer rates.

Claim 133 (Previously presented): The apparatus of claim 128, wherein the targeted computer maintains a look-up list that is a mesh list.

Claim 134 (Original): The apparatus of claim 128, wherein the acknowledgement independent equalized data packet encoding scheme is a FEC encoding.

Claim 135 (Original): The apparatus of claim 128, wherein the data that is to be encoded is segmented before encoding.

Claim 136 (Original): The apparatus of claim 128, wherein the received encoded packets are decoded, and then re-encoded for further transmission upon request.

Claim 137 (New): A method comprising:

receiving at a source computer requests for data from a first requesting computer and a second requesting computer;

in response to the requests, delivering a first encoded portion of data from the source computer to the first requesting computer and a second encoded portion of the data from the source computer to the second requesting computer, wherein the first encoded portion and the second encoded portions are encoded using a forward error correction (FEC) encoding;

exchanging the first encoded portion and the second encoded portion of the data between the first requesting computer and the second requesting computer; and

decoding the first encoded portion and the second encoded portion of the data to recreate the requested data at the first requesting computer and the second requesting computer.